



Texas Animal Health Commission (TAHC)

"Serving Texas Animal Agriculture Since 1893"

Texas Cattle Fever Tick

What is the Cattle Fever Tick?

Cattle Fever ticks, known scientifically as *Rhipicephalus* (formerly *Boophilus*) *annulatus* and *R. microplus*, are a huge threat to the United States cattle industry. These ticks are capable of carrying the protozoa, or microscopic parasites, *Babesia bovis* or *B. bigemina*, commonly known as cattle fever.

The *Babesia* organism attacks and destroys red blood cells, causing acute anemia, high fever, and enlargement of the spleen and liver, ultimately resulting in death for up to 90 percent of susceptible naive cattle.

Fever Tick Lifecycle

The female cattle fever tick will attach to a single animal and will remain on it for the duration of her life. Cattle fever ticks become infected with the protozoa once they consume blood from an infected animal. When the tick reproduces, the protozoa will then pass on to its larvae. The fever tick larvae will then pass on the protozoa to cattle they attach to.

Potential hosts of cattle fever ticks

include, but are not limited to: cattle, horses, white-tailed deer, and exotic hoofstock, such as nilgai antelope and red deer.

What Happens when Infestation is Detected?

When ticks are found on livestock or wildlife, the premises is designated as an "Infested premises." Other premises in the proximate area are designated as "Adjacent, Exposed, or Check premises" and are subject to movement restrictions, inspections and treatment as prescribed by the tick regulations. Along with the permanently established tick eradication quarantine area, running along the border, the Commission can also establish a "temporary preventative quarantine area", or a "control purpose quarantine area" to control and prevent the spread of fever ticks in other areas of the state.

Treatment includes dipping or spraying cattle immediately with the acaricide Coumaphos, known by the brand name Co-Ral. Dipping is preferable to spray application, as total immersion more effectively kills ticks that may be concealed in the folds of skin. Although Co-Ral will kill ticks at any stage of development, it is essential that all cattle in the herd be dipped on schedule to prevent adult ticks from dropping off to lay eggs in the grass between treatments. If all cattle in

the herd are not accounted for and treated on schedule, or if fever ticks are found on cattle at the time of inspection or treatment, the quarantine period is extended. Ranchers are offered a number of options for eliminating the fever ticks and obtaining a release from the quarantine.

Cattle Fever Tick Treatment Options

The statutory authority for this program is found in Chapter 167 of the Texas Agriculture Code. The regulations are found in Title 4, Part 2 of the Texas Administrative Code, and located Chapter 41. They can be found in <http://www.tahc.texas.gov/regs/code.html>.

Option 1: Scheduled Dipping

The first option involves a prescribed schedule of dipping the cattle on the premises every 7 to 14 days for 6 to 9 months. The dipping schedule is based on the fever tick's life cycle.

The cattle from quarantined pasture are sprayed on the ranch or trucked to an authorized dipping vat, where they are treated under the supervision of a United States Department of Agriculture (USDA) mounted patrol inspector, who must certify that 100 percent of the herd was treated. The animals are returned to their pasture, where more ticks will climb aboard before the next scheduled dipping. This procedure is repeated again and again to "clean" the pasture of ticks during the minimum 6 to 9 month quarantine period.

Option 2: Vacating Premises

The second option for eliminating the fever tick operates on the principal of "starving out" the tick, by removing the hosts.

This approach, known as "vacating" the pasture, can be a more economical option for some ranchers as it cuts the costs of repeatedly rounding up, transporting and dipping cattle. This option begins with dipping the cattle on a 7-14 day schedule. The cattle must have two consecutive tick-free inspections and dippings. Then, the herd can be moved to a new, tick-free pasture. The tick-infested pasture is then left empty, or vacated, for nine months. However, over the past 20 years, increasing populations of wildlife hosts of the cattle fever tick, including White-tailed deer, nilgai antelope, red deer, blackbuck antelope, and other susceptible species, ticks will often continue to survive on these hosts and will not starve out, resulting in failure of this method of approach.

Option 3: Injectable Dectomax® (Doramectin)

The third option for treatment is a ready-to-use injectable. Dectomax is given on a 25-28 day schedule for the 6 to 9 month quarantine period.

This treatment option has been proven to be effective against the fever tick. It also relieves the stress of dipping and/or moving cattle from their premise, reduces the number of times that cattle must be gathered during the quarantine period by about one-half, resulting in substantial costs savings for the rancher when compared to a dipping schedule. Dectomax has a 35-day pre-slaughter withdrawal period and should not be used in dairy cows 20 months of age or older or in calves to be processed for veal. Dectomax has been developed specifically for cattle and swine. Use in dogs may result in fatalities.

The USDA-Animal and Plant Health Inspection Service-Veterinary Services (APHIS-VS) and Texas Animal Health Commission (TAHC) are working together to find new, effective and cost-efficient ways to better manage ticks. This includes feeding ivermectin-treated molasses and field testing of a tick vaccine for cattle. It also includes improved management of fever ticks on deer.

Wildlife Treatment Methods

When treating wildlife or exotic animals for fever ticks scheduled dipping poses a particular challenge. These animals cannot be gathered like livestock in order to be dipped or sprayed. Treatment is currently limited to feeding ivermectin treated corn or the use of four-poster feeders with permethrin infused rubbing posts, depending on the time of year.

Although vacating the premises of all livestock is often less expensive for the landowner, it is much less effective in eliminating fever ticks due to free-ranging deer and exotics. The White-tailed deer, nilgai, elk and other wildlife that can carry the fever tick must be treated by approved methods during the period the pasture is left vacant in order to reduce the perpetuation of the tick.

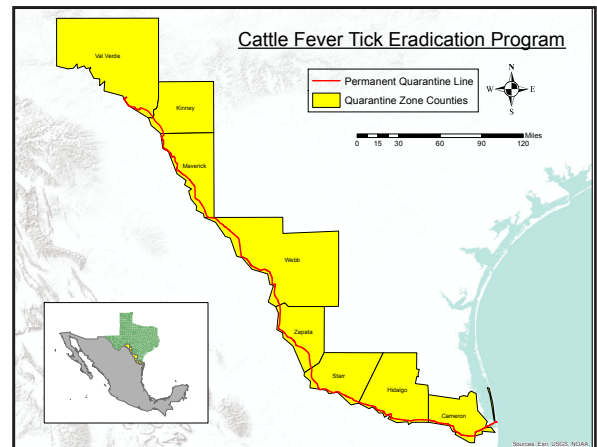
Report Suspected Cattle Fever Ticks

When producers observe ticks in their herd they should contact the TAHC, local County Extension office, or private

veterinarian to submit tick samples to the TAHC laboratory in Austin, TX, to ensure the parasites are not cattle fever ticks. USDA-APHIS-VS and the TAHC use several procedures to control and prevent the introduction and spread of ticks as previously listed. Personnel from the USDA-APHIS-VS, continually inspect U.S. cattle in or near the permanent quarantine zone. They also ride on horseback, looking for stray livestock and wildlife crossing the Rio Grande River that may potentially be infested with fever ticks.

Permanent Fever Tick Quarantine Zone

The permanent cattle fever tick quarantine zone is a narrow zone from 200 yards to 10 miles wide along the Rio Grande River. This strip of land is approximately 500 miles long, runs through eight South Texas counties, alongside the Rio Grande River from Devils River to the Gulf of Mexico. It was created as a buffer zone to Mexico, where fever ticks are common. This zone allows tick incursions from Mexico to be detected and eliminated quickly, so that cattle in the zone do not potentially spread fever ticks into the interior of the state.



Fever Tick History

In 1893, fever tick outbreaks prompted the Texas Legislature to create the Livestock Sanitary Commission, the original name of the TAHC. The agency's primary mission was to eradicate the Texas cattle fever tick.

Inspectors inspect livestock premises in the quarantine zone regularly. Animals shipped out of the zone must be inspected, found free of ticks, dipped and receive a movement document before leaving the area. As added surveillance, inspectors also conduct visual checks of cattle and horses in Texas markets and receiving pens.



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